

ABSTRACT

A polarization conversion optical system converts light having a nonuniform plane of polarization into light having a uniform plane of polarization. The system includes a multilayer dielectric film at the side upon which the target light is incident. The film exhibits the property that it reflects one polarized component of the light and transmits a second polarized component of the light at a first angle of incidence, but transmits the first component at a second angle of incidence. Incident target light that is transmitted through the film at the first angle of incidence passes through a quarter-wavelength plate and is reflected at the second angle, whereupon it is re-transmitted through the quarter-wavelength plate to be converted from one plane of polarization to the other. It is then emitted from the dielectric film in the same plane of polarization as light reflected by the film.